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ABSTRACT

Transcription is an integral process in the qualitative analysis of language data, and is widely employed in basic and applied research across a number of disciplines and in professional practice fields. Yet methodological and theoretical issues associated with the transcription process have received scant attention in the research literature. The extant literature on transcription is reviewed across disciplines, and an empirical study of transcription as used by practitioners and researchers in training is reported. Five pairs of female graduate students in a language development class transcribed a book reading session with a mother and a child. Findings showed that participants' transcripts differed in layout, quantity, and type of elements of the interaction they transcribed, conventions they derived to represent those elements, and the consistency with which they applied the conventions. It was also found that transcription decisions were linked to interpretive consequences. It is concluded that transcription is theory-laden; the choices researchers make about transcription enact the theories they hold and constrain the interpretations they can draw form their data. As it has implications for the interpretation of research data and for decision-making in educational practice, transcription as a process warrants further investigation. (Contains 6 figures and 37 references.) (SLD)

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Examining Transcription:

A Theory-Laden Methodology

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Abstract

Transcription is an integral process in the qualitative analysis of language data, and is widely employed in basic and applied research across a number of disciplines and in professional practice fields. Yet methodological and theoretical issues associated with the transcription process have received scant attention in the research literature. We review the extant literature on transcription across disciplines, and report an empirical study of transcription as used by practitioners and researchers in training. Our findings were that participants' transcripts differed in layout, quantity and type of elements of the interaction they transcribed, conventions they derived to represent those elements, and the consistency with which they applied those conventions. We also found that transcription decisions were linked to interpretive consequences. We conclude that transcription is theory-laden; the choices researchers make about transcription enact the theories they hold and constrain the interpretations they can draw from their data. As it has implications for the interpretation of research data and for decision-making in educational practice, transcription as a process warrants further investigation.

Examining Transcription:

A Theory-Laden Methodology

In many domains of the social and human sciences where human interaction is of interest to researchers, the research method of choice involves making observations and audiotaped or videotaped recordings of social and communicative interaction (either in naturalistic or interview settings) followed by verbatim transcription, coding, and analysis. This approach to qualitative data collection and analysis has been used and refined for over 25 years in linguistic research, and also has been widely adopted by researchers in disciplines like developmental psychology, sociology, and anthropology. Methods of recording, transcribing, coding, and analyzing language interactions are also employed by researchers and practitioners alike in professional fields such as speech-language pathology, education, and counselling.

There is a burgeoning literature on qualitative analysis, contrasting the nature of this paradigm with quantitative approaches, clarifying different purposes and approaches within the qualitative paradigm, identifying the mutual contributory roles of researcher and participants, and addressing issues such as validation of analyses and generalizability (Kvale, 1996; Lapadat & Janzen, 1994; Marshall & Rossman, 1995; Miles & Huberman, 1994; Tesch, 1990; Wolcott, 1990). Qualitative analysis programs exist to aid in the sorting, coding, transformation, and storage of text data (Miles & Huberman, 1994; Tesch, 1990). We are seeing the emergence of electronic resources for storing, accessing, distributing, and supporting dialogue about corpora and text data archives (J.A. Edwards, 1993a; MacWhinney, 1995). Yet a basic process integral to this type of qualitative research -- transcription -- has received scant attention in the research and professional literatures (J.A. Edwards, 1993b). While a methodological literature treating this topic is emerging within the domains of discourse analysis (J.A. Edwards & Lampert, 1993; Schiffrin, 1994) and conversation analysis (Psathas, 1990; Silverman, 1993; ten Have, 1997), for the most part, commentary is particular to narrow and often highly technical areas of research,

and has not received wider circulation through the literatures of the many disciplines and professional fields that employ language as data.

In empirical publications, researchers reporting data collection and analysis procedures seldom make mention of transcription processes beyond a simple statement that audio- or videotaped data were transcribed. When quoting directly from transcripts, researchers sometimes include a footnote to label idiosyncratic transcription conventions. Yet, keys of transcription conventions employed in a study are seldom included in published reports, even though there is little agreement among researchers about standardization of conventions (J.A. Edwards, 1993b; Ochs, 1979). It is as if these researchers assume that transcriptions are transparent, directly reflecting in text the "hard reality" of the actual interaction as captured on audio- or videotape (yet, see Kvale, 1996; Psathas & Anderson, 1990; and Silliman & Wilkinson, 1991; for remarks on how the recording process itself structures the data). This is a surprising assumption given that this research methodology has arisen, in large part, through the discovery that language itself is not transparent and hence constitutes a rich source of examinable data (Mishler, 1991; Silverman, 1993). It would seem ironic for those of us who collect and analyze the language of human interactions as our primary data to repeat this assumption of transparency with respect to our analysis procedures for handling and manipulating language data. Yet the notion that transcription is in itself problematic is not often acknowledged in research reports, nor taken into account in training novice researchers or developing applications in professional practice.

We argue that researchers make choices about transcription that enact the theories they hold. If these theories and their relationships to research processes are left implicit, it is difficult to examine them, or to interpret the findings that follow from them. Because the processes of collecting, transforming, and analyzing language interaction data are in themselves theoretical, they have implications for the interpretations and theories that can be drawn from the data (J.A. Edwards, 1993b; Mishler, 1991). In the cases of applied

research or professional practice, there are also implications for the education of new practitioners, clinical and instructional decision-making, and balancing efficiency and effectiveness. Therefore, transcription warrants examination, both as a research process with implications that cut across disciplinary domains, and also to develop guides for professional education and practice.

Each researcher makes choices about whether and what to transcribe and how to represent it. In basic research that employs language as data, current accepted practices involve audio- or videotaping communicative interaction (perhaps with the addition of concurrent observational notes, or pre- or post-session research memos), followed by verbatim transcription, and analysis, which includes some form of coding process, to make sense of the data (Psathas & Anderson, 1990). However, where language interaction data are used in clinical or instructional practice, time is at a premium, and practitioners are still debating whether less rigorous approaches to handling data, such as omitting the transcription step and coding on-site in real time, or coding directly from the audio- or videotaped records, can be substituted for the full process with satisfactory results (Kieren & Munro, 1985). Our focus here is the role of transcription in the full tape-transcribe-code-interpret analysis process. We present a study examining transcription as used by practitioners, and researchers in training.

Transcription as a Research Method

An inspection of writings on transcription as a research method reveals the following progression of perspectives: neglect of transcription as a topic, the search for conventions, acceptance of a multiplicity of conventions, and abandonment of standardization in favour of contextualized negotiation of method. At the introduction of mechanical recording of social and communicative interactions, the focus was on how this technology expanded precision of language data. For the most part, the transcription step was seen as so mundane, invisible, and unproblematic as to be unworthy of comment.

As researchers accumulated experiences transcribing, it became apparent that there were many decisions to be made. How should one organize the page (J.A. Edwards, 1993b; Mishler, 1991; Ochs, 1979)? How could transcript preparation procedures be designed to balance between competing demands of efficiency and accuracy (Zukow, 1982)? Should orthographic or phonetic transcription be used (Ochs, 1979), or a modified orthographic approach reflecting pronunciation (Chafe, 1993; Psathas & Anderson, 1990)? What paralinguistic and nonverbal information should be included, and what conventions should be used to symbolize or present it (Chafe, 1993; Du Bois, Schuetze-Coburn, Cumming, & Paolino, 1993; Psathas & Anderson, 1990)? What should constitute basic units in the transcript -- utterances, turns, tone units, or something else (Chafe, 1993; Du Bois et al., 1993; Psathas & Anderson, 1990; Mishler, 1991)? This phase was characterized by processes of seeking, developing, and sharing proposals and rationales for standardized conventions (see sample transcripts in MacWhinney, 1995, and in Schiffrin, 1994, and lists of conventions in Du Bois et al., 1993, and Psathas & Anderson, 1990).

Ochs' (1979) remarks from nearly twenty years ago on some of the fundamental concerns in using transcription in child language acquisition research remain pertinent to that field, and also have cross-disciplinary implications. She cautions that the use of mechanical recording devices does not eliminate the problem of selective observation, but merely delays some of the decision-making to the moment of transcription. She decries developmental psycholinguists' lack of concern for examining transcription as method, pointing out that "the transcriptions are the researchers' data" (p. 44), and that "transcription is a theoretical process reflecting theoretical goals and definitions" (p. 44, emphasis in the original). As we have noted above, these issues still remain problematic and are echoed by current writers on transcription as methodology. As the use of language as data has become more widespread, so have the methodological implications. Ochs goes on to argue for developing a set of basic transcription conventions for representing child language, while allowing for a certain amount of selectivity reflecting the researcher's

interests. She describes the import of decisions about page layout, relative placement of verbal and nonverbal information in the transcript, matters of timing (e.g., overlaps and pauses), choice of orthographic versus phonetic representation, and choice of discourse unit (e.g., utterance, proposition, or turn).

Du Bois et al.'s (1993) aim is to systematize the core conventions, categories and symbols used in transcribing discourse. To this end, they meticulously define unambiguous means of representing various units, speakers, aspects of intonation, terminal pitch, accent and lengthening, tone, pausation, nonverbal vocalizations, voice quality, phonetic segments, inaudible or uncertain portions, environmental noises, and duration. (They are not concerned with representing nonauditory and environmental information.) They provide a transcription example of each convention they propose and a symbol key in an appendix. It is clear that these authors view transcription as a complex technical process of making one-to-one matches between the components of discourse events and the symbols for representing these events. While they acknowledge that not every researcher will have a need for every symbol they present, and that some researchers will require additional "special" symbols (and for this purpose, they have reserved a few symbols to be flexibly defined), their positivistic approach is one of ever more precise and proliferating definitions of categories and their situational nuances. In their view, it is at the level of coding, not transcription, that interpretive and "theory-bound" judgments are appropriate (p. 79).

Another recent description of the push to establish a set of shared conventions for transcription comes from the area of conversation analysis (CA). Conversation analysis has been defined as the study of "the social organization of 'conversation', or 'talk-in-interaction', by a detailed inspection of tape recordings and transcriptions" (ten Have, 1997, p. 1). Psathas and Anderson (1990) aim to explicate conversation analysts' actual transcription practices, which typically employ "The Jeffersonian Transcription System" developed by Gail Jefferson (p. 75). These authors are careful to qualify their claims,

pointing out that transcripts cannot be neutral, that transcription is both a method and a craft, and that reseachers will employ selectivity in deciding what to include in a transcript. (See also Jefferson, 1992, commenting on the transcription and editing of Harvey Sacks' lectures for publication. She remarks on the problems of mishearings and spontaneous editing, and tradeoffs between readability, standard form, and faithful conservation of the exact words.)

Psathas and Anderson (1990) say that the process of transcribing includes analysis at some level, thus the audio- or video-tapes -- not the transcripts -- are the data. They emphasize that methodical re-listening to and re-viewing the recorded interactions is the process through which details become visible and through which multiple researchers can reach agreement. Despite these comments, Psathas and Anderson's goal is to lay out a standard set of conventions to enable comparisons across conversation analysis studies.

Over time, what has happened is that sets of conventions have begun to proliferate. The "fixed menu" has given way to a "buffet" of conventions. In Jane Edwards and Martin Lampert's (1993) collection of articles on transcription and coding, several very different approaches to transcription are presented, along with convincing rationales as to their research importance. A multiplicity of conventions now co-exist side by side, each with a researcher or school of researchers supporting the approach they have developed. The impetus has shifted away from establishing one standardized set of transcription conventions. Many researchers have acknowledged that transcription is an inherently theoretical process dependent on the theories the researcher holds, and influencing the analysis and interpretation cycle (Chafe, 1993; D. Edwards & Potter, 1992; J.A. Edwards, 1993; Mishler, 1991; Ochs, 1979; Poland, 1995; Psathas & Anderson, 1990). For example, the researcher is already making coding decisions through the transcription focus and conventions he or she chooses, and secondary coding processes are both constrained by and further elaborate these initial choices.

The methodological dilemma can be seen in Gumperz and Berenz's (1993) comments on transcription. Standardized transcription conventions are useful in assisting in the handling, comparison, and sharing of language data. However, language meanings and processes, which are situated in time and place and always negotiated or emergent, evade such neat description.

Like the researchers discussed above, Gumperz and Berenz (1993) also describe a set of transcription conventions that permit comparisons of natural language use across various settings. Their system was developed for an on-line text archive at the University of California called Disclab. Thus, as well as facilitating comparison using different researchers' databases, this system was also designed to enable computer search, retrieval, sorting, and coding procedures. Like Chafe, (1993), Du Bois et al. (1993), and Psathas and Anderson (1990), these authors define a set of conventions and provide a transcription key.

However, Gumperz and Berenz (1993) emphasize that just as conversation involves ongoing, contextualized interpretation by speakers and listeners that shapes the emerging conversational events, so too does transcription function as interpretive analysis. Therefore, their aim in what they call "contextualization analysis" (p. 94) is to record on paper those perceptual cues that participants use in processing ongoing conversation and "the rhetorical impact these signs have in affecting the <u>situated interpretations</u> on which the conduct and outcome of the exchange depends" (p. 92; emphasis in the original). Because of this orientation, they note that their system can be neither context-free nor exhaustive. Rather, they aim to "make explicit the processes by which the presuppositions that affect or channel interpretations at any one point are negotiated and to show how talk at any one time coheres with the preceding and following talk" (p. 94).

With the turn to more constructivist notions of discourse and interest in situated meaning, conversation analysis as an approach has been subjected to criticism for its primary emphasis on seeking rules to explain conversational organization (see, for

example, recent online debates in the "lang-use" discussion group). Some of this discussion has arisen simply because CA utilizes some of the most empirical, explicit, coherent, and long-standing approaches to analyzing talk; because procedures have been defined, they are available for critique. However, a more powerful source of this debate arises from the inescapable interrelationship between theory and method, and the ways CA deals with transcription illustrates this core issue. Ten Have (1997) addresses some of the criticisms that have been levelled at CA, including: the inadequacy of CA for representing participants' situated meanings, the belief that a researcher can stand aside as 'objective,' and the neglect of contextual factors.

On the topic of participants' meanings and how they are to be interpreted, ten Have (1997) explains that CA researchers employ recordings of naturalistic, ordinary conversation as data, and aim to describe and explain "the competences that ordinary speakers use and rely on in participating in intelligible, socially organized interaction" (p. 20). As such, the primary aim is not to interpret the participants' intended meanings, but rather to empirically analyse the social organization of conversation as reflected in rules and recurrent patterns. Use of CA methods for analysis of participants' negotiations of meaning oversteps the purposes for which CA is intended, he suggests.

In ten Have's opinion, a danger facing CA researchers is that they might fail "to evade as far as possible the unthinking and unoticed use of common sense" (1997, p. 6). To aid them in standing aside from their data are the CA strategies of being nonselective in choosing talk as data (any mundane naturalistic conversation will do), the recording process which serves an "estranging" function (p. 6), and the transcription process with its painstaking, repetitive review aiming to recapture and represent the sequence of events during talk in interaction. He suggests that researchers should make their own transcriptions, and that any transcript will necessarily be incomplete. While ten Have acknowledges that researchers will draw on their insider or member knowledge, he recommends that they attempt to delay the application of this knowledge to late in the

analysis process, following transcription. In his view, then, the process of transcription is used to constrain the researcher's theorizing, limiting it to "hearing what is being said and noting how it has been said" (p. 6).

Conversation analysis, with its focus on recording, transcribing, then analyzing ordinary conversation, can be criticized for neglecting contextual factors like participants' history and roles, details about setting, and wider institutional and cultural factors. Such information included in or linked to transcripts could elucidate the sequential conversational interactions. Ten Have acknowledges that CA relies "on a reification of its object through the 'overhearing' of tapes and the construction of transcripts, [so it is] restricted in its study of conversational streams as situated practices" (1997, p. 13). However, he sees this exclusivity as a strength. As the stream of ordinary talk is "the bedrock for intersubjective understanding" (p. 10), it provides sufficient material for analysis, he suggests. The CA process limits prejudging, and is both practical and principled.

This debate about transcription methods employed in conversation analysis reflects a deeper issue -- what ten Have (1997) calls a tension between analysis and interpretation:

> 'Interpretation', here, refers to the effort to formulate the relatively unique meaning an utterance, an action or an episode seems to have for participants and/or researchers, while 'analysis' is used to indicate efforts to isolate aspects, mechanisms and procedures that are relevant to a range of cases. (p. 15)

Ten Have defends CA's theoretical commitment to analysis of empirical conversational data over interpretation as a choice to focus on those aspects of the interactional stream that are most accessible. This CA example illustrates the interdependence of theory and method. Transcription methods developed in CA can be seen to follow from its theoretical commitments, and also to shape the kinds of conclusions that can be reached using CA data.

In contrast to research traditions that have sought standard transcription conventions as a way of enhancing the reliability and generalizability of language data, a number of

researchers have argued that such a quest rests on misguided assumptions (Cook, 1990; Kvale, 1996; Mishler, 1991). These theorists have made the point that there is not a one-to-one correspondence between conversations and events that unfold during human interaction and what a researcher transcribes from an audio- or videotaped recording. Rather, the process of transcription is both interpretive and constructive.

In pragmatics-based approaches to discourse analysis, labelled by Cook (1990) as "discourse pragmatics," contextual information beyond the words of the text -- data intentionally excluded from CA-- is, by definition, central to analysis. Cook describes information to be included in the transcript as coming from the following sources: text, physical features, paralinguistics, situation, co-text, intertext, thought, and observer (p. 3). However, context is, by nature, both "infinitely delicate and infinitely expandable" (p. 1). He argues, therefore, that transcription can never be complete or objective because the extent of detail that can be transcribed is both practically and theoretically limited. Transcription necessarily involves selection; there are "as many transcription systems as there are transcribers, and a danger is that each system records not the discourse, but a particular approach to it" (p. 5). This selectivity points to a difficulty in developing transcripts that can be used by different researchers for different purposes. The quantity of pragmatic information within which any stretch of discourse is embedded precludes exhaustiveness; therefore every transcript is purposively selective and these initial purposes constrain their subsequent uses.

Cook (1990) remarks that, in most transcripts, no rules for selection of contextual factors are given, nor is the selectivity even acknowledged, factors that have implications for making valid interpretations of the data. While Cook claims that "it is a truism to note that all transcription is in some sense interpretation" (p. 12), often researchers imply transcript objectivity. However, "the subjective, selective and fundamentally unscientific nature of analyses of language in context should be acknowledged, and not disguised" (p.

15). His proposed solution is to seek a transcription system that permits and acknowledges the need for selectivity according to changing purposes.

It is interesting to note that, while this likely was not his intent, Cook's observations can be construed as bolstering the CA rationale for excluding contextual information from analysis in the first place; this avoids the slippery slope towards unprincipled inclusiveness. However, simply ignoring contextual data does not make context go away. That language interactions are embedded in context, and constructed dynamically though the contextually informed moment-by-moment choices of participants is undeniable. As Derek Edwards (1991) has pointed out, talk is both indexical (situated; invokes context) and rhetorical (organized argumentatively). Talk "makes available a range of implications and inferences concerning the speaker's interests, knowledge, thoughts and feelings, [and] efforts at accomplishing particular social actions" (p. 525). Conversational participants respond to these indexicalities in the production of talk. Furthermore, talk is rhetorical in that it is organized to perform social actions and to persuade "with regard to what other people say or think, or are assumed to think, or might think" (p. 526). (See also D. Edwards & Potter, 1992).

Mishler (1991) extends this argument that transcription is fundamentally interpretive. He says that the common practice of viewing transcription as merely a technical procedure for "re-presenting" speech reflects a perspective of naive realism, which he argues is simplistic. He suggests that rather than language and meaning being mutually transparent, there are, in fact, intractable uncertainties in their relationship (p. 260). Our research practices rest on and evolve through a postmodern understanding of language-meaning relationships "as contextually grounded, unstable, ambiguous, and subject to endless reinterpretation" (p. 260). Therefore, the quest for ever more detailed and precise "objective" transcripts is wrong-headed. Like Ochs (1979), he agrees that processes of transcription form "a critical step in the social production of scientific knowledge" (p. 261). The innumerable procedural and methodological decisions

researchers make while transcribing reflect their theoretical assumptions and rhetorical purposes.

Mishler presents two or more versions of transcripts from three different data sets along with analytical commentary showing how transcription itself is fundamentally problematic. He concludes that these sample analyses:

> ...should help put to rest any notion that there is one standard, ideal, and comprehensive mode of transcription -- a singular and true re-presentation of spoken discourse. Transcriptions of speech, like other forms of representation in science, reflexively document and affirm theoretical positions about relations between language and meaning. Different transcripts are constructs of different worlds, each designed to fit our particular theoretical assumptions and to allow us to explore their implications....They have a rhetorical function that locates them within a larger political and ideological context. (p. 271)

Kvale (1996), in his recent book on qualitative research interviewing, characterizes transcriptions as interpretive constructions arrived at through choices made by the researcher. These begin with initial recording decisions (audio or video recording? boundaries of the record? angles and framing?) and continue through to intended purpose of analysis (sociolinguistic? psychological? historical documentation?), and audience (the original interviewees? other researchers? practitioners?). Like other theorists, Kvale notes that analysis begins during transcription. Rather than aiming for completeness, which is not achievable, researchers should ask themselves, "'What is a useful transcription for my research purposes?'" (p. 166).

On the whole, however, Kvale views transcripts as "an impoverished basis for interpretation" (1996, p.167) because social, temporal and spatial contextual information available to the participants in the interview are largely absent from the transcripts. The source of the difficulty rests in researchers' unreflective assumption that oral discourse can

be transformed into written text without consequence. He says, "attempts at verbatim interview transcriptions produce hybrids, artificial constructs that are adequate to neither the lived oral conversation nor the formal style of written texts" (p. 166). This is especially problematic when transcripts are reified during the interpretive process. He criticizes researchers in the social sciences for being "naive users of the language that their professional practice and research rests on" (p. 168). Kvale also criticizes researchers employing transcription for insufficient checking of transcript reliability and validity, and failing to adequately describe their transcription processes. He looks ahead to the day when qualitative computer analysis programs will operate directly on digitized recordings, bypassing the transcription "detour" altogether (p. 174). Such technical innovations, along with increased awareness of the differences between oral and written language modes, might "reclaim the lived interview conversation from the hegemony of transcripts in interview research" (p. 175).

Poland (1995), who uses transcription of interview data in health promotion research, also questions the adequacy of transcripts (and the audiotape itself) in representing both the interview, and the lived experience the interview references. He remarks that "the transcript as text is frequently seen as unproblematic and is given privileged status in which its authority goes unquestioned" (p. 292). Just as the research interview must be understood as socially constructed -- "a co-authored conversation in context" (p. 292) -- so too should the transcript be "open to multiple alternative readings, as well as reinterpretation with every fresh reading" (p. 292).

Poland's primary concern is to enhance the "trustworthiness of transcripts as research data" (1995, p. 294). He provides transcription examples from his own research to illustrate types of challenges to transcription quality, defined as faithful reproduction of the audiotaped record. Quality of transcripts can be adversely affected by deliberate, accidental, and unavoidable alterations of the data, he says. He suggests a number of strategies for assessing and increasing transcript quality. Therefore, Poland's proposal for

addressing transcription issues is not to bypass transcription as a step in the analysis, as Kvale (1996) has suggested, but rather for researchers to become more reflective about their transcription procedures. We agree, and to this would add that such reflections must include consideration of the mutual bi-directional and dynamic influences of theory and transcription methodology, and their implications for interpretation.

Transcription in Professional Practice

While researchers within various academic disciplines have focused on ways in which transcription methodology impacts on the interpretive process and on the ways in which transcription is inherently theory-laden, practitioners and applied researchers have expressed a different set of concerns about transcription. Most commonly mentioned disadvantages of transcription in practice settings are cost and time (Bertrand, Brown & Ward, 1992; Gravois, Rosenfield & Greenberg, 1992), which can impact both turn-around time in returning practical results to community members (Bertrand et al.), and whether the taped data will even reach the analysis stage (Gravois et al.). To these, Rice, Sell, and Hadley (1990) add the disadvantages of requiring access to videotaping equipment and the need for specialized training. Therefore, although the full tape-transcribe-code-interpret (TTCI) process is acknowledged to be more complete, accurate, and unbiased, as well as to preserve data for analysis in a more permanent, retrievable, examinable, and flexible manner, some researcher-practitioners have sought more expedient and less expensive shortcuts to data interpretation (Bertrand et al., 1992; Gravois, et al., 1992; Kieren & Munro, 1985).

Bertrand et al. (1992) offer pointers from their experiences using focus group data to advise on policy in international family planning projects. They recommend using the full TTCI process when completeness is desired or detailed comparisons are to be done, assuming time and resources are available. They also describe the alternatives of keeping notes and then subsequently expanding the notes from the audiotaped record, or working

from notes alone, along with the risks of these approaches, and suggestions for cross-checking for accuracy.

Gravois et al.'s (1992) main concern is to provide evidence that coding directly from audiotapes is sufficiently reliable for evaluation research employing interviews of school-based team members that the transcription step in analysis can be omitted. Their finding that intercoder agreement was not significantly different in tape-coding and transcript-coding conditions suggests this conclusion is warranted. However, this study exhibits a number of methodological flaws, including differential training in coding in the two conditions (favoring the tape-coding condition), the method used to combine data, and the criterion for intercoder agreement accepted as adequate. Most seriously, in the transcript-coding condition, coders worked from transcripts prepared by a typist, apparently without having heard the tape nor having attended the data collection session -- a procedure that few researchers or practitioners would recommend.

Kieren and Munro (1985) have examined the hypothesis that the least costly methodological alternative to the full TTCI process in terms of time and money in family practice research is to employ onsite real-time live observation with pencil and paper coding (online coding), omitting the recording and transcription steps. However, they found that even with extensive training in coding, observers using this method lost half to two-thirds of the data and were unreliable in recognizing units of data and assigning categories. Furthermore, decision-points were irretrievable, and thus not available for examination or replication. They rejected this method as insufficient for the needs of research into family interaction. Kieren and Munro found that coding directly from videotapes, using either pencil and paper or a mechanical coding device, resulted in loss of 13 to 34% of the data and marked inconsistencies in category assignments, as compared with procedures involving transcription and then coding. While coding directly from videotapes was 4 to 13 times as fast as procedures utilizing transcription and sufficiently accurate for some

professional purposes, these findings suggest that transcription is an essential step for applied research when thoroughness, accuracy, and retrievability are required.

In speech-language pathology, the client's language itself -- language structures, content, and use -- is the central focus of practitioners' assessment and intervention. Therefore, this field has an extensive collection of observational procedures for language-sampling, employing a variety of categorical, narrative, and descriptive tools (Silliman & Wilkinson, 1991). For example, Rice et al. (1990) describe the development of a clinical procedure for online coding of preschool children's social interactions that bypasses the need for taping and transcribing. In assessing the reliability of the coding procedure, they obtained intercoder agreements (calculated as percent agreement rather than employing a more rigorous kappa statistic) ranging from 89-100% when coding from videotapes and from 83-100% when coding onsite in real-time. However, the two observers underwent 10 hours of training in coding from videotapes, and an additional 10 hours of training in online coding, so this approach cannot be considered expedient timewise. These reliability results point to the potential of this procedure as a clinical tool that can be utilized in naturalistic settings to describe and document language devlopment and aid in formulating treatment goals. However, the authors acknowledge its limitations in that it does not produce a record of interactions and it is limited to tracking a single conversational dimension. They suggest this tool be used in addition to a standard assessment battery, and that it be supplemented with transcriptions of interactions.

Language recording, transcription, coding, and interpretation procedures developed by language acquisition researchers have been adapted to meet the clinical needs of speech-language pathologists. Procedures for TTCI have a long history in language acquisition research, having developed in parallel with those in sociolinguistics, conversation analysis and discourse analysis (Bloom & Lahey, 1978; Ingram, 1976, Ochs, 1979; Zukow, 1982). Because of demands particular to representing young children's and/or disordered speech and language, different transcription issues have come to the fore. For example Ingram

identified the need for a suitable and consistent system/level of phonetic transcription, the issue of phonetic variability in young children's speech both in spontaneous and elicited samples, and the existence of factors influencing the accuracy of hearing phonetic detail during transcribing. He suggested including all of the following in a transcript: a phonetic representation, word-by-word gloss, interpretation, and the context of each child utterance, as well as each adult partner's utterance (in standard orthography) (p. 94). Other researchers have addressed topics such as representation of unintelligible utterances (Bloom & Lahey), transcription of adult co-participants' misinterpretations (Bloom & Lahey), page layout (Bloom & Lahey; Ochs), choice of discourse unit (Hughes, McGillivray, & Schmidek, 1997; Ochs), and inclusion of contextual information (Bloom & Lahey; Ochs; Zuchow). For example, for contextual information, Bloom and Lahey suggest conventions for transcribing actions, pointing and other gestures, facial expression, temporal ordering, and eye gaze (p. 605), while Zuchow also uses conventions for representing body orientation.

Because of the centrality of language-sampling in speech-language pathologists' clinical practice, recent years have seen the emergence of commercially available language sampling guides and training manuals (Hughes et al., 1997; Retherford, 1993). Retherford points out that in clinical practice, "the validity of the analysis procedures applied to language transcripts is contingent upon the quality of the transcriptions" (p. 15). She comments that she originally developed her guide to aid in teaching student clinicians procedures to tape, transcribe, code and interpret the semantic, syntactic, and pragmatic dimensions of clinical language samples. Retherford's Guide to Analysis of Language Transcripts offers "explicit directions, guided practice, and principles for the interpretations of results" (p. x). With respect to the transcription component, it provides conventions and a standard transcript layout suitable for assessing and tracking preschool language acquisition, adapted from Bloom and Lahey's (1978) model.

Hughes et al.'s (1997) Guide to Narrative Language was developed for school-based speech-language pathologists' use and also for teaching student clinicians. The focus is oral and written narrative development during the school years. The TTCI procedures in this guide are designed to facilitate assessment of narrative discourse, to document changes in narrative discourse over time, and to provide a means of quantifying this information so that it can be used for the purposes of planning and obtaining funding for special services in schools. A central transcription issue for these authors is the segmentation of transcripts. They advocate using the minimal terminal unit (T-unit) and communication units (CU), both of which reflect clause structure and thus syntactic complexity, in written and oral samples respectively (p. 37). They note that segmentation choices should depend on the kind of analysis to be done (p. 41). Because clause structures increase in complexity throughout narrative development, they argue for a segmentation method that indexes clausal structure, but also note that transcripts could be segmented on the basis of propositions to track semantic development, or "sound/sentence thought" to enhance comparability with the familiar notion of sentences used in language arts curricula (p. 58). Hughes et al. also identify the need to make transcription decisions about mazes, abandoned utterances, garbles, verbal disruptions, and silent pauses (p. 59). Transcription choices will affect the subsequent process of assessing, tracking and reporting macrostructures of narratives, and therefore should be explicit and consistent.

An Empirical Look At Transcription

In this survey of theoretical and methodological transcription issues in basic and applied research and in professional practice across a wide range of disciplines and fields, we have identified a number of key concerns. Whether researchers or practitioners are gathering language data for analysis to advance theory about language itself, or for other purposes such as for diagnosis and therapeutic planning in clinical settings, or as a tool for accessing people's beliefs and knowledge to guide policy development, they must make reasoned decisions about what part transcription will play in the methodology. This

includes whether to include transcription as a step, how to ensure rigour in the transcription process and in the reporting of results, and heuristics and cautions for analyzing and drawing interpretations from the taped and transcribed data. While transcription is routinely included as an essential part of the methodological process, there has been relatively little cross-disciplinary reflection on the nature of the transcription process and its role. As we have seen, researchers and practitioners require flexible approaches to transcription to suit their different purposes; therefore a quest for one standard set of conventions is not likely to satisfy all.

Some of the methodological issues surrounding transcription reflect deeper underlying theoretical positions. Transcription is inherently theory-laden. Writers on transcription have pointed to the understanding that transcription represents an audiotaped or videotaped record, and the record itself represents an interactive event. Acknowledging transcription as representational avoids the mistake of taking the written record as the event, and opens the transcription process for examination of its trustworthiness as an interpretive act. There is a need to examine empirically how researchers create different representations, how these representations follow from their purposes or working theories, and how these representations structure and constrain the kinds of interpretations they can derive from their data.

Empirical examination of transcription processes, products, and their implications is singularly lacking in the research literature. Even the issues arising from the theoretical and anecdotal discussions on transcription that we have reported here are not typically mentioned in most discussions of qualitative methodology, nor in reports of empirical studies employing tape-transcribe-code-interpret methodologies with language data. Just as explicit discussion of transcription as a methodological and theoretical process is largely absent in the research and theoretical literature, it also seldom appears as a topic of consideration in the education of future researchers and practitioners who will be employing transcription in their work. The study that follows, which investigates

transcription practices employed by graduate education students and their perceptions and beliefs about transcription, was designed to address this "hole" in the empirical literature.

Method

Data Collection

Participants in the study were five pairs of students taking a graduate education course on language development taught by the first author. Of the ten women, one was enrolled in a Masters in Speech-Language Pathology, one in an MEd in Educational Counselling, and one in an MEd in Literacy, and the rest were completing an MEd in Curriculum and Instruction with a Language in Education focus. All were current practitioners with many years of professional experience. Professions represented in this group included elementary and secondary teachers, special education teacher/counsellors, a school administrator, a college instructor, a private tutor of students with learning disabilities, and a speech-language pathologist.

The students' task, given as a class assignment, was to videotape, transcribe, analyze, and interpret a session of shared book reading involving a parent with a child aged to 2;6 to 4;0. Each pair of students located, interviewed, and observed a different parent/child pair over the course of one or two visits. The book used was Zimmermann's (1989) Henny Penny. Three of the graduate students had some previous experience recording and transcribing spoken language, but not in interactive sessions, while for the rest, collecting and analyzing language interaction data was a new experience.

The students had read and discussed several research articles on language development and emergent literacy prior to the project, thus had been exposed to a variety of current theories and methodological approaches. They were provided with a data collection protocol, and given practice in videotaping and observation techniques. However, they were not provided a set of transcription conventions nor given explicit training on transcription, aside from being instructed to record language used in the session

verbatim, to organize the page so that speakers and sequence would be clear, and to include relevant nonverbal and contextual information.

The pairs of graduate students were subsequently interviewed by the second author about the conventions they used in their transcripts, how these conventions related to their questions of interest, how they jointly negotiated the transcription and interpretive process, and about their beliefs about the nature of transcription. These interviews were videotaped and audiotaped with both researchers present, then transcribed verbatim by the second author using a set of conventions developed and reported by Lindsay (1996). Early in the transcription process, selected transcripts were checked by the first author and differences were resolved through discussion. The transcripts were also checked against the videotaped record. In subsequent discussion, we refer to the pairs of students and their transcripts by initials: H/C, D/C, E/T, M/L, and J/T.

Analysis

To analyze the student transcription process we began with the set of conventions described by Lindsay (1996) and for each pair identified which elements they had transcribed, how they had described them in the interview, and what convention they had used for their purposes. Where elements occurred in their transcriptions that were not in the original set of conventions, these were added. We then summarized across the five pairs what elements had been transcribed and compared and contrasted the five transcription processes.

Results

The first feature of the data that we examined was the physical layout of transcripts. None of the pairs used a vertical spatial arrangement such as each of the two researchers uses. As can be seen in Figures 1, 2, 3, 4 and 5, all five pairs used a columnar arrangement as commonly used by language acquisition researchers, in which speech and non-speech are in separate columns staggered to reflect the chronology of action and speech. All five

pairs used this organization relatively similarly with the exception of the H/C pair who added lines across their columns.

However the specific formats used by the five student pairs were all different as is evident in the sample transcript layouts. There are variations across the five layouts in number and type of columns, the labels used for the columns where information contained within the column was the same, and the proportion of space given the different columns. For example, E/T's layout only used two columns while H/C's layout had five columns, necessitating laying out their transcript horizontally (in landscape format) rather than vertically. Only M/L's transcript included a column showing the elapsed time. In two, the speech of the participants was put into a column called Text, in one, a column called Oral Transcription of Storybook Reading, in another, a column called Oral, and in H/C's layout into two separate columns labeled Transcription (Mother) and Transcription (Child). Only one layout, that of D/C, gives the context column the same amount of space as the column for speech. Finally the way they indicated the speaker varied from the separate columns in H/C's approach to the full name in D/C's, to initials in E/T's and J/Ts, to the use of italics for the child and regular font for the mother in M/L's approach.

In terms of elements transcribed, the five pairs showed considerable consistency in three features, verbal content, segmentation of turns, and actions accompanying speech. They all transcribed verbal content verbatim (as they had been instructed) including non-standard English such as "I don't wanna read it" and "Yep". However, incomplete words or single morphemes do not appear in any of the transcripts. This omission was not discussed by the students and so it is not clear if they chose not to transcribe these or if none appeared in these sessions, something that seems highly unlikely. Furthermore, none of these pairs chose to transcribe any portion of the child's speech phonetically. They all used conventional end punctuation and commas to segment the turns into sentence-like and phrase-like units as can be seen in the transcription samples. All used single words, phrases or abbreviated sentences to describe the actions that accompanied the speech.

However, for all other elements there was marked diversity across the transcripts. The diversity occurred in which additional elements they transcribed and the transcription conventions they used.

In terms of diversity of elements transcribed there was considerable difference in the total number of elements transcribed. The H/C transcript only includes 8 types of elements; J/T's includes 11 types, D/C's 14 types, E/T's 16 types, and M/L's 17 types. All the pairs included some distinction for text read as opposed to extratextual speech, however in differing degrees of detail. Two pairs only designated text read; two distinguished between speech read and other text; and one coded separately the reading of the title. All five pairs transcribed vocalizations by using the relevant term, such as laugh, whine, and chuckle. Three pairs used the same convention of entering the term in the context column, but three other conventions were also used. Similarly, pauses were transcribed by three pairs but using five different conventions as seen in Figure 6. The E/T pair used a dash and two variations on writing the word "pause" into the location in the speech. The D/C pair used 2 ellipsis points to show a pause in Alex's speech, and the M/L pair left space between the words to show a pause.

Unintelligible content was also only transcribed by three pairs, but using five different conventions, ranging from asterisks to replace the number of syllables, to putting the words they thought they heard either in italics or parentheses. Only two pairs noted facial expression. However, they both used the same convention of giving a brief description, such as "R has sad look on face," and placing it in the context column. The same approach was used for lowered volume but only three pairs noted this element.

A number of features were only identified by one pair, notably unconventional pronunciation, extended vowels or consonants, emotional mood, louder volume, and pitch, and time elapsed. None of the dyads noted any changes in speed of speech, although it is difficult to imagine these story reading sessions not including differences in pacing.

The transcribing of context was particularly anomalous. Generally there were few entries of context, as we defined it -- that is, information beyond the actual speech event. What all the pairs transcribed into the context column was accompanying action. As well they included in this column volume, facial expression, vocalizations, emotional mood, interruptions, comments on the mother's interactive strategy, and gaze direction. Even more anomalous was that one pair placed gaze direction in their time elapsed column.

In the interviews the J/T pair stated that what they included in context was what they felt made a difference or had an impact on the conversation. Similarly H/C also noted that they included information if it was significant. The D/C pair commented that there was always so much going on that it was difficult to know what to include and they also stated that they also made a judgement as to the significance of the action to the event. They stated that they "tried to pick out the most important things that were related to exactly what was going on." One final type of diversity seen was within individual transcripts. As in Figure 6, there were several instances of the use of more than one convention for the same element in the same transcript.

In summary, the students showed marked similarity in their approaches to some elements of the transcription process and marked diversity to others. Interestingly, one pair remarked in the interview that there had been little decision making on their part in terms of how to do the transcription. They seemed to think that they had been given directions in class that covered most of the decisions about the process.

Discussion

This study of graduate students' transcription processes has shown that, when given the task of transcribing sessions of mother-child interactions during shared book reading, the five pairs of students developed different types of transcripts. Their transcripts differed in the way they laid out and labelled the categories or columns, which and how many of the elements of the interaction they chose to transcribe, the types of conventions they derived to represent those elements, and the consistency with which they applied those

conventions. Their representation of contextual information was particularly variable. In the subsequent interview, when the pairs of students were asked to reflect on their transcription processes, they also varied in the kinds of definitions and explanations that they provided and the kinds of negotiation with each other that they reported.

Differences between the pairs in focus of interest and in their understanding of the purpose of the project seemed to account for some of the variations in transcription. For example, the pair consisting of a tutor of students with LD and a primary teacher (D/C) attended very carefully to diagnostic details indicating the child's level of language development, as well as to goals of the mother's speech and actions. They included a column in their transcripts labelled "Comments," which was a running record labelling the child's linguisitic structures as well as the mother's interactive strategies. On the other hand, the pair consisting of two secondary teachers, one of whom was working as a special education teacher/counsellor (E/T), were attentive to the emotional tone of the mother-child session, and included contextual information that reflected this.

With respect to their understanding of the purpose of the project, several students mentioned a particular empirical article they had read in class on talk around text as having a large impact on what they considered theoretically important in their own analysis, and some even viewed this as a "standard template" for conducting emergent literacy studies (see Haden, Reese, & Fivush, 1996). (This article was the first of several they had read, and seemed to have the greatest influence.) Pairs that mentioned this article, which correlated maternal bookreading style with rate of children's language and literacy development, were particularly attentive to representing characteristics of the mother's language in the transcript.

We also observed that the events of their particular session tended to dictate to the students what was important to make salient in the transcript. That is, their transcription was data driven. For example, the mother in one session read to her young daughter at a rapid rate, usually pausing only to issue commands about behavior. This was the one pair

of students (M/L) who identified and highlighted elapsed time in the transcription conventions they developed.

With respect to consistencies in transcribed content, all five pairs produced a verbatim verbal record, they all included physical actions as a contextual element, and they all tended to apply standard punctuation conventions. The first two consistencies follow from the assignment instructions to write down the language verbatim, and to include contextual information. We assume that their application of standard punctuation conventions was simply due to their familiarity with punctuating their writing in written language tasks in the past, and this shows that they viewed transcription as a type of written language task. In fact, one student, who teaches secondary English, commented that she viewed the transcript construction as script writing.

These findings also provide evidence that transcription decisions are linked to interpretive consequences. We found that the transcript, once produced, had a constraining effect on the subsequent coding and analysis, and hence on the theoretical and practical interpretations the students made about the bookreading session. For example, one pair of students (J/T) experienced several interruptions at the beginning of their session, which resulted in a number of false starts. They chose not to transcribe the false starts, thereby missing out on some interesting data showing the variety of interactional styles the mother employed with her child when engaged in reading together at the beginning, as contrasted with strategies she used when he was somewhat tired and frustrated later in the evening.

One of the most interesting outcomes of this analysis is that, although each pair produced quite different transcripts and analyses, during their classroom presentation each pair expressed the perspective that the way they had done the transcription seemed at the time to be the only possible or reasonable way to proceed. Across all the participants, there seemed to be a belief that there was a complete one-to-one match of their transcribed data to the spoken record of the session and to the event itself. When the pairs of students presented their analyses to the class, they were interested to observe that another pair had

decided to record tone of voice, or direction of eye gaze, or to include a line-by-line commentary of the researchers' interpretations. But rather than reflecting that each pair had proceeded differently because of the different purposes they had or the different situations they encountered, the common perspective was that "we should have included more of those aspects in our transcript to make it complete." This seems to us to reflect the common working assumption among researchers that transcription is both transparent and exhaustive. It also reveals a lack of awareness of the constructed nature of knowledge, defaulting instead to positivistic assumptions about researcher-constructed data as objective representations of language interaction events.

Limitations

The present study must be considered a preliminary attempt to empirically examine some of the issues involved in transcribing language data. One limitation of our data is that each of the graduate student pairs recorded and transcribed the interactions of a different mother-child dyad. Therefore, it is difficult to determine the extent to which intergroup variation in transcription processes and focus of analysis reflects differences in the sessions they viewed, as compared with differences in initial assumptions or analytic intentions. Another limitation is that these graduate students represented a close-knit group that engaged in a great deal of discussion among themselves as their projects unfolded. Also, as this was a class assignment, the instructor did answer questions posed in class about analysis processes. These two factors might have constrained the range of variation we would have otherwise seen.

Implications

As Kvale (1996) and others have pointed out, the role of transcription is problematic both theoretically and methodologically, not transparent as was originally assumed. One difficulty has been researchers' insufficient attention to its role in analysis and therefore to the methodological rigour needed (Poland, 1995). Another has been that transcription has been applied to a number of different disciplines and research purposes,

each placing different demands on the methodology, yet the assumption that a transcript provides a one-to-one match with the "reality" of the communicative event, and the quest for standard conventions, have obscured the need for using transcription flexibly and interpretively. However, the primary difficulties surrounding transcription as a methodology have to do with the "big questions" about the nature of reality and how to represent it, the relationships between talk and meaning, and the place of the researcher in this interpretive process.

Unlike Kvale (1996), we believe these important issues cannot be avoided simply by omitting the step of transcription. The hard work of interpretation still needs to be done. Researchers across disciplines for many years have found transcription to be an important component of the analysis process. We want to emphasize that it is not just the transcription product -- those verbatim words written down -- that is important; it is also the process that is valuable. Analysis takes place and understandings are arrived at through the process of listening and re-listening, viewing and re-viewing. We think that transcription facilitates the close attention and the interpretive thinking that is needed to make sense of the data. It is our contention that transcription as a theory-laden component of qualitative analysis warrants closer examination.

This study also has implications for teaching research, and for practitioners who employ transcription. Following this experience of taping, transcribing, coding and interpreting interactive language, all of the graduate students found that their appreciation for the complexity of language and how it plays out within a particular situational context was deepened. Those who have gone on to conduct other empirical studies have demonstrated an understanding of the importance of attending carefully to methodological issues and to the nuances and multiple levels of interpretation that can be embedded within one event. This shows that experience with microanalytic methodologies in language interaction, including transcription, can have payoffs in graduate students' understanding about research processes, as well as implications for their future practice.

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Figure 1. Sample of E/T transcription

ORAL	ACTION
M: So, they are going to go to tell the King, aren't they? All together...	J: nods
12 - So they went along and they went along and they went along until they met Goosey Loosey	(turn page)
M: Where is Goosey Loosey? J: Right here.	J: thumb out, points thumb in
M: Yes, she is. "Hello, Henny Penny, *(Cocky Locky)* Kooky Louky and Ducky Lucky," said Goosey Loosey.	M: laughs J: laughs
M: Oh, ha, what funny names. J: Ha, ha ..... Funny	J: laughs

Figure 2. Sample of J/T transcription

TRANSCRIPTION OF STORYBOOK READING	CONTEXT
R: *"Oh, my," said Henny Penny. "The sky is falling! The sky is falling. I must go and tell the King."*	
K: You look funny. You look funny, Mommy.	K looking at R
R: There's a little worm on this book. Can you show me where it is?	

Figure 3. Sample of D/C transcription

TEXT	CONTEXT	COMMENTS
Mother: *"Hello, Henny Penny," said Cocky Locky. Where are you going?" "The sky..."*	Alex is getting off the couch	
Mother: Where are you going?		
Alex: I am going...		
Mother: You want to stand		
Mother: OK		
Alex: going to stand on the ground		Mother calmly allows Alex to stand beside her and continues reading
Mother: *"The sky is falling and I must go and tell the King," said Henny Penny*		
Alex: Cocky Locky	Mother turns page	

Figure 4. Sample of M/L transcription

INTERVALS	TEXT	CONTEXT
3:00 No	[okay] So they went along and they went along and they went along until they met Foxy Loxy. *Mum Mummmmmy Mum Mum* [just a sec] *want juice inan thirsty* [Pass her her juice, Darcy] "Greetings Henny Penny, Cocky Locky, Ducky Lucky, Goosey Loosey and Turkey Lurkey," said Foxy Loxy. *Thanks Darce.*	*[takes bottle]*

Figure 5. Sample of H/C transcription

	A Coding	B Transcription (Mother)	C Transcription (Child)	D Context
13		The sky is falling and I must go tell the		
14		King," said Henny Penny		
15	describe	[Look at the pot on her head.]		M points to the picture.
16			Uh huh.	
17		"Oh! May I go with you?" asked Cocky Locky.		
18		"Certainly!" said Henny Penny.		
			There's horses	b points to the horses.
19	B labels picture.	[Yeh, there's horses in the farmyard. Heh.]		

Figure 6. A comparison of conventions for pauses.

E/T

ORAL	ACTION
M: ...it has hair on it - on the head...	

E/T

ORAL	ACTION
13 "The sky is falling and we all must go and tell the King," said Henny Penny, . . . *pause* . .	J: thumb in

E/T

ORAL	ACTION
M: So, who did they meet on this page? ...pause...	

D/C

TEXT	CONTEXT	COMMENTS
Alex: What happened ..what happened to that green cup?	Mother points to the little green cup	

M/L

INTERVALS	TEXT	CONTEXT
7:15 Yes	*Mummy* *Mummy*	